



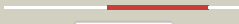

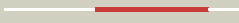


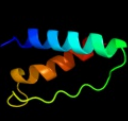





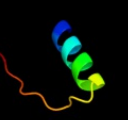



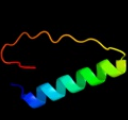


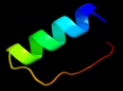










Phyre2

Email	I.a.kelley@imperial.ac.uk
Description	P76053
Date	Thu Jan 5 12:17:54 GMT 2012
Unique Job ID	f55be5a611fa8814

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3qd7X_	 Alignment		100.0	100	PDB header: hydrolase Chain: X: PDB Molecule: uncharacterized protein ydal; PDBTitle: crystal structure of ydal, a stand-alone small muts-related protein2 from escherichia coli
2	c2zqeA_	 Alignment		99.9	31	PDB header: dna binding protein Chain: A: PDB Molecule: muts2 protein; PDBTitle: crystal structure of the smr domain of thermus thermophilus muts2
3	d2d9ia1	 Alignment		99.7	19	Fold: IF3-like Superfamily: SMR domain-like Family: Smr domain
4	c2vkcA_	 Alignment		99.7	16	PDB header: hydrolase Chain: A: PDB Molecule: nedd4-binding protein 2; PDBTitle: solution structure of the b3bp smr domain
5	c3no4A_	 Alignment		66.7	10	PDB header: hydrolase Chain: A: PDB Molecule: creatinine amidohydrolase; PDBTitle: crystal structure of a creatinine amidohydrolase (npun_f1913) from2 nostoc punctiforme pcc 73102 at 2.00 a resolution
6	d1v7za_	 Alignment		66.5	10	Fold: Creatininase Superfamily: Creatininase Family: Creatininase
7	d1jdqa_	 Alignment		50.8	11	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
8	c2fmoA_	 Alignment		43.7	13	PDB header: oxidoreductase Chain: A: PDB Molecule: 5,10-methylenetetrahydrofolate reductase; PDBTitle: ala177val mutant of e. coli methylenetetrahydrofolate2 reductase
9	c1x0lB_	 Alignment		38.5	10	PDB header: oxidoreductase Chain: B: PDB Molecule: homoisocitrate dehydrogenase; PDBTitle: crystal structure of tetrameric homoisocitrate dehydrogenase from an2 extreme thermophile, thermus thermophilus
10	c3lubE_	 Alignment		36.6	16	PDB header: hydrolase Chain: E: PDB Molecule: putative creatinine amidohydrolase; PDBTitle: crystal structure of putative creatinine amidohydrolase2 (yp_211512.1) from bacteroides fragilis nctc 9343 at 2.11 a3 resolution
11	d1pyya2	 Alignment		35.9	6	Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain

12	d1b5ta_	Alignment		35.7	13	Fold: TIM beta/alpha-barrel Superfamily: FAD-linked oxidoreductase Family: Methylenetetrahydrofolate reductase
13	d1v93a_	Alignment		33.4	29	Fold: TIM beta/alpha-barrel Superfamily: FAD-linked oxidoreductase Family: Methylenetetrahydrofolate reductase
14	d2odka1	Alignment		33.1	12	Fold: YefM-like Superfamily: YefM-like Family: YefM-like
15	d2obba1	Alignment		31.3	3	Fold: HAD-like Superfamily: HAD-like Family: BT0820-like
16	d1k25a2	Alignment		30.7	6	Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain
17	c3ouvA_	Alignment		29.4	19	PDB header: transferase Chain: A: PDB Molecule: serine/threonine protein kinase; PDBTitle: semet derivative of I512m mutant of pasta domain 3 of mycobacterium2 tuberculosis pknb
18	d1d3ya_	Alignment		26.7	15	Fold: DNA topoisomerase IV, alpha subunit Superfamily: DNA topoisomerase IV, alpha subunit Family: DNA topoisomerase IV, alpha subunit
19	c3e0iF_	Alignment		26.2	13	PDB header: transferase Chain: F: PDB Molecule: dna polymerase subunit delta-3; PDBTitle: x-ray structure of the complex of regulatory subunits of2 human dna polymerase delta
20	d1rp5a2	Alignment		24.9	6	Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain
21	d1xpja_	Alignment	not modelled	24.7	11	Fold: HAD-like Superfamily: HAD-like Family: Hypothetical protein VC0232
22	c3fmxX_	Alignment	not modelled	24.5	6	PDB header: oxidoreductase Chain: X: PDB Molecule: tartrate dehydrogenase/decarboxylase; PDBTitle: crystal structure of tartrate dehydrogenase from pseudomonas2 putida complexed with nadh
23	d2a6qb1	Alignment	not modelled	23.8	15	Fold: YefM-like Superfamily: YefM-like Family: YefM-like
24	c3fdjA_	Alignment	not modelled	23.6	12	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: degv family protein; PDBTitle: the structure of a degv family protein from eubacterium eligens.
25	c2q2eA_	Alignment	not modelled	21.5	13	PDB header: isomerase Chain: A: PDB Molecule: type ii dna topoisomerase vi subunit a; PDBTitle: crystal structure of the topoisomerase vi holoenzyme from2 methanosarcina mazei
26	c3aysA_	Alignment	not modelled	21.1	16	PDB header: hydrolase Chain: A: PDB Molecule: endoglucanase; PDBTitle: gh5 endoglucanase from a ruminal fungus in complex with cellotriose
27	d1dcja_	Alignment	not modelled	20.9	15	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
28	c3e0fA_	Alignment	not modelled	20.6	22	PDB header: hydrolase Chain: A: PDB Molecule: putative metal-dependent phosphoesterase; PDBTitle: crystal structure of a putative metal-dependent phosphoesterase2 (bad_1165) from bifidobacterium adolescentis

					atcc 15703 at 2.40 a3 resolution
29	d2c0ha1	Alignment	not modelled	20.3	7 Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases
30	c3blxL	Alignment	not modelled	20.0	12 PDB header: oxidoreductase Chain: L: PDB Molecule: isocitrate dehydrogenase [nad] subunit 2; PDBTitle: yeast isocitrate dehydrogenase (apo form)
31	d2c2la2	Alignment	not modelled	18.8	17 Fold: RING/U-box Superfamily: RING/U-box Family: U-box
32	c3pzqA	Alignment	not modelled	18.4	12 PDB header: hydrolase Chain: A: PDB Molecule: mannan endo-1,4-beta-mannosidase. glycosyl hydrolase family PDBTitle: structure of the hyperthermostable endo-1,4-beta-d-mannanase from2 thermotoga petrophila rku-1 with maltose and glycerol
33	d1r57a	Alignment	not modelled	18.0	22 Fold: Acyl-CoA N-acyltransferases (Nat) Superfamily: Acyl-CoA N-acyltransferases (Nat) Family: N-acetyl transferase, NAT
34	c3k5wA	Alignment	not modelled	17.1	21 PDB header: transferase Chain: A: PDB Molecule: carbohydrate kinase; PDBTitle: crystal structure of a carbohydrate kinase (yjef family)from2 helicobacter pylori
35	c2odkD	Alignment	not modelled	16.9	13 PDB header: structural genomics, unknown function Chain: D: PDB Molecule: hypothetical protein; PDBTitle: putative prevent-host-death protein from nitrosomonas europaea
36	d1m65a	Alignment	not modelled	16.1	22 Fold: 7-stranded beta/alpha barrel Superfamily: PHP domain-like Family: PHP domain
37	c1mw0A	Alignment	not modelled	15.8	25 PDB header: hydrolase Chain: A: PDB Molecule: alpha amylase; PDBTitle: crystal structure analysis of the hyperthermostable2 pyrococcus woesei alpha-amylase
38	c1jdaA	Alignment	not modelled	15.4	5 PDB header: hydrolase Chain: A: PDB Molecule: 1,4-alpha maltotetrahydrolase; PDBTitle: maltotetraose-forming exo-amylase
39	c2g7zB	Alignment	not modelled	15.2	19 PDB header: structural genomics, unknown function Chain: B: PDB Molecule: conserved hypothetical protein spy1493; PDBTitle: conserved degv-like protein of unknown function from streptococcus2 pyogenes m1 gas binds long-chain fatty acids
40	d1e43a2	Alignment	not modelled	14.9	5 Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
41	c1bplA	Alignment	not modelled	14.8	10 PDB header: glycosyltransferase Chain: A: PDB Molecule: alpha-1,4-glucan-4-glucanohydrolase; PDBTitle: glycosyltransferase
42	c1m7xC	Alignment	not modelled	14.8	37 PDB header: transferase Chain: C: PDB Molecule: 1,4-alpha-glucan branching enzyme; PDBTitle: the x-ray crystallographic structure of branching enzyme
43	c2wjeA	Alignment	not modelled	14.4	13 PDB header: hydrolase Chain: A: PDB Molecule: tyrosine-protein phosphatase cpsb; PDBTitle: crystal structure of the tyrosine phosphatase cps4b from2 streptococcus pneumoniae tigr4.
44	d1pava	Alignment	not modelled	14.4	8 Fold: IF3-like Superfamily: SirA-like Family: SirA-like
45	c1jaeA	Alignment	not modelled	14.2	10 PDB header: glycosidase Chain: A: PDB Molecule: alpha-amylase; PDBTitle: structure of tenebrio molitor larval alpha-amylase
46	d1g8fa3	Alignment	not modelled	14.0	15 Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: ATP sulfurylase C-terminal domain
47	c3ndyA	Alignment	not modelled	13.8	15 PDB header: hydrolase Chain: A: PDB Molecule: endoglucanase d; PDBTitle: the structure of the catalytic and carbohydrate binding domain of2 endoglucanase d from clostridium cellulovorans
48	c2zbkA	Alignment	not modelled	13.6	22 PDB header: isomerase Chain: A: PDB Molecule: type ii dna topoisomerase vi subunit a; PDBTitle: crystal structure of an intact type ii dna topoisomerase:2 insights into dna transfer mechanisms
49	c3mmwB	Alignment	not modelled	13.5	37 PDB header: hydrolase Chain: B: PDB Molecule: endoglucanase; PDBTitle: crystal structure of endoglucanase cel5a from the hyperthermophilic2 thermotoga maritima
50	d1hx0a2	Alignment	not modelled	13.5	10 Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
51	c3ll4B	Alignment	not modelled	13.4	12 PDB header: hydrolase Chain: B: PDB Molecule: uncharacterized protein ykr043c; PDBTitle: structure of the h13a mutant of ykr043c in complex with fructose-1,6-2 bisphosphate
52	c2ns6A	Alignment	not modelled	13.2	20 PDB header: hydrolase Chain: A: PDB Molecule: mobilization protein a; PDBTitle: crystal structure of the minimal relaxase domain of moba2 from plasmid r1162
53	d1gcya2	Alignment	not modelled	12.6	5 Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
54	d1vjza	Alignment	not modelled	12.5	15 Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases

55	dlceoa_	Alignment	not modelled	12.4	19	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases
56	dlavaa2	Alignment	not modelled	12.3	15	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
57	d3dhpa2	Alignment	not modelled	12.2	10	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
58	c1jd7A_	Alignment	not modelled	12.2	15	PDB header: hydrolase Chain: A: PDB Molecule: alpha-amylase; PDBTitle: crystal structure analysis of the mutant k300r of2 pseudoalteromonas haloplantis alpha-amylase
59	dlgiwa2	Alignment	not modelled	12.1	19	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
60	c1bagA_	Alignment	not modelled	11.9	10	PDB header: alpha-amylase Chain: A: PDB Molecule: alpha-1,4-glucan-4-glucanohydrolase; PDBTitle: alpha-amylase from bacillus subtilis complexed with2 maltopentaose
61	c2kueA_	Alignment	not modelled	11.8	13	PDB header: transferase Chain: A: PDB Molecule: serine/threonine-protein kinase pknb; PDBTitle: nmr structure of the pasta domain 2 and 3 of mycobacterium2 tuberculosis of pknb
62	c3k35D_	Alignment	not modelled	11.8	18	PDB header: hydrolase Chain: D: PDB Molecule: nad-dependent deacetylase sirtuin-6; PDBTitle: crystal structure of human sirt6
63	c3eozB_	Alignment	not modelled	11.6	21	PDB header: isomerase Chain: B: PDB Molecule: putative phosphoglycerate mutase; PDBTitle: crystal structure of phosphoglycerate mutase from plasmodium2 falciparum, pfd0660w
64	d2csba1	Alignment	not modelled	11.4	6	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Topoisomerase V repeat domain
65	c1q14A_	Alignment	not modelled	11.3	14	PDB header: hydrolase Chain: A: PDB Molecule: hst2 protein; PDBTitle: structure and autoregulation of the yeast hst2 homolog of sir2
66	c3icgD_	Alignment	not modelled	11.1	19	PDB header: hydrolase Chain: D: PDB Molecule: endoglucanase d; PDBTitle: crystal structure of the catalytic and carbohydrate binding domain of2 endoglucanase d from clostridium cellulovorans
67	c3m07A_	Alignment	not modelled	11.1	37	PDB header: unknown function Chain: A: PDB Molecule: putative alpha amylase; PDBTitle: 1.4 angstrom resolution crystal structure of putative alpha2 amylase from salmonella typhimurium.
68	c2kudA_	Alignment	not modelled	10.9	6	PDB header: transferase Chain: A: PDB Molecule: serine/threonine-protein kinase pknb; PDBTitle: nmr structure of the pasta domain 1 and 2 of mycobacterium2 tuberculosis of pknb
69	dlg94a2	Alignment	not modelled	10.8	15	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
70	c3qy6A_	Alignment	not modelled	10.7	9	PDB header: hydrolase Chain: A: PDB Molecule: tyrosine-protein phosphatase ywqe; PDBTitle: crystal structures of ywqe from bacillus subtilis and cpsb from2 streptococcus pneumoniae, unique metal-dependent tyrosine3 phosphatases
71	c3blpX_	Alignment	not modelled	10.7	10	PDB header: hydrolase Chain: X: PDB Molecule: alpha-amylase 1; PDBTitle: role of aromatic residues in human salivary alpha-amylase
72	dljaea2	Alignment	not modelled	10.7	10	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
73	d2gipa2	Alignment	not modelled	10.6	20	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
74	c1wpcA_	Alignment	not modelled	10.6	10	PDB header: hydrolase Chain: A: PDB Molecule: glucan 1,4-alpha-maltohexaosidase; PDBTitle: crystal structure of maltohexaoase-producing amylase complexed with2 pseudo-maltonaose
75	c1qhoA_	Alignment	not modelled	10.6	10	PDB header: hydrolase Chain: A: PDB Molecule: alpha-amylase; PDBTitle: five-domain alpha-amylase from bacillus stearothermophilus,2 maltose/acarbose complex
76	c2yb1A_	Alignment	not modelled	10.5	15	PDB header: hydrolase Chain: A: PDB Molecule: amidohydrolase; PDBTitle: structure of an amidohydrolase from chromobacterium violaceum (efi2 target efi-500202) with bound mn, amp and phosphate.
77	c2zc3F_	Alignment	not modelled	10.4	0	PDB header: biosynthetic protein Chain: F: PDB Molecule: penicillin-binding protein 2x; PDBTitle: penicillin-binding protein 2x (pbp 2x) acyl-enzyme complex2 (biapenem) from streptococcus pneumoniae
78	dlm7xa3	Alignment	not modelled	10.3	37	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
79	c3jugA_	Alignment	not modelled	10.3	17	PDB header: hydrolase Chain: A: PDB Molecule: beta-mannanase; PDBTitle: crystal structure of endo-beta-1,4-mannanase from the alkaliphilic2 bacillus sp. n16-5
80	c2x4bA_	Alignment	not modelled	10.3	23	PDB header: hydrolase Chain: A: PDB Molecule: limit dextrinase; PDBTitle: barley limit dextrinase in complex with beta-cyclodextrin

81	d1ua7a2	Alignment	not modelled	10.3	10	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
82	d1ob0a2	Alignment	not modelled	10.1	10	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
83	c2ya0A	Alignment	not modelled	10.1	14	PDB header: hydrolase Chain: A: PDB Molecule: putative alkaline amylopullulanase; PDBTitle: catalytic module of the multi-modular glycogen-degrading2 pneumococcal virulence factor spua
84	c1ehaA	Alignment	not modelled	10.1	21	PDB header: hydrolase Chain: A: PDB Molecule: glycosyltrehalose trehalohydrolase; PDBTitle: crystal structure of glycosyltrehalose trehalohydrolase2 from sulfolobus solfataricus
85	c3lupA	Alignment	not modelled	9.9	19	PDB header: structure genomics, unknown function Chain: A: PDB Molecule: degv family protein; PDBTitle: crystal structure of fatty acid binding degv family protein sag13422 from streptococcus agalactiae
86	d2isba1	Alignment	not modelled	9.9	31	Fold: The "swivelling" beta/beta/alpha domain Superfamily: FumA C-terminal domain-like Family: FumA C-terminal domain-like
87	c3amlA	Alignment	not modelled	9.8	21	PDB header: transferase Chain: A: PDB Molecule: os06g0726400 protein; PDBTitle: structure of the starch branching enzyme i (bei) from oryza sativa l
88	c3bmwA	Alignment	not modelled	9.7	15	PDB header: transferase Chain: A: PDB Molecule: cyclomalto-dextrin glucanotransferase; PDBTitle: cyclodextrin glycosyl transferase from thermoanaerobacterium2 thermosulfurigenes em1 mutant s77p complexed with a maltoheptaose3 inhibitor
89	d1uf3a	Alignment	not modelled	9.6	18	Fold: Metallo-dependent phosphatases Superfamily: Metallo-dependent phosphatases Family: TT1561-like
90	c1cygA	Alignment	not modelled	9.4	15	PDB header: glycosyltransferase Chain: A: PDB Molecule: cyclodextrin glucanotransferase; PDBTitle: cyclodextrin glucanotransferase (e.c.2.4.1.19) (cgtase)
91	d1cyga4	Alignment	not modelled	9.4	16	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain
92	d1bqca	Alignment	not modelled	9.4	13	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases
93	c1bf2A	Alignment	not modelled	9.3	10	PDB header: hydrolase Chain: A: PDB Molecule: isoamylase; PDBTitle: structure of pseudomonas isoamylase
94	d1ltqa1	Alignment	not modelled	9.3	8	Fold: HAD-like Superfamily: HAD-like Family: phosphatase domain of polynucleotide kinase
95	d2pb1a1	Alignment	not modelled	9.3	16	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases
96	d2a6qa1	Alignment	not modelled	9.2	15	Fold: YefM-like Superfamily: YefM-like Family: YefM-like
97	d1uuqa	Alignment	not modelled	9.1	12	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: beta-glycanases
98	c1uz4A	Alignment	not modelled	9.1	12	PDB header: hydrolase Chain: A: PDB Molecule: man5a; PDBTitle: common inhibition of beta-glucosidase and beta-mannosidase2 by isofagomine lactam reflects different conformational3 itineraries for glucoside and mannoside hydrolysis
99	d1mxga2	Alignment	not modelled	9.1	25	Fold: TIM beta/alpha-barrel Superfamily: (Trans)glycosidases Family: Amylase, catalytic domain